

Appln No. 10/045,663

Amdt date November 21, 2003

Reply to Office action of October 08, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An electron gun for a cathode ray tube comprising:

a cathode for emitting an electron beam;

a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes.

2. (Original) The electron gun of claim 1 wherein a plurality of openings are formed at predetermined distances through the shield electrode, and the shield electrode is cylindrical and is mounted on the focusing electrodes covering the at least one gap.

3. (Original) The electron gun of claim 2 wherein the shield electrode is a single unit.

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4. (Original) The electron gun of claim 2 wherein the shield electrode is formed by a plurality of separate elements.

5. (Original) The electron gun of claim 1 wherein the at least one gap between the focusing electrodes is denoted by g_1 , and the at least one gap satisfies the following condition:

$$4\text{mm} < g_1 < 12\text{mm}$$

6. (Original) The electron gun of claim 1 wherein the plurality of focusing electrodes comprise first and second separated focusing electrodes that satisfy the following condition:

$$b \text{ mm} > 0.5a \text{ mm}$$

where (a) is an inner diameter of the first separated focusing electrode and (b) is a length of the first separated focusing electrode in an axial direction of the CRT.

7. (Currently Amended) The An electron gun of claim 2 for a cathode ray tube comprising:

a cathode for emitting an electron beam;

a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance

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over the focusing electrodes, wherein a plurality of openings are formed at predetermined distances through the shield electrode, and the shield electrode is cylindrical and is mounted on the focusing electrodes covering the at least one gap and wherein the shield electrode satisfies the following condition:

$$0.25d \text{ mm}^2 < c \text{ mm}^2 < 0.75d \text{ mm}^2$$

where (c) is a total area of the openings and (d) is an area of the shield electrode minus the area occupied by the openings.

8. (Currently Amended) ~~The~~ An electron gun ~~of claim 2~~ for a cathode ray tube comprising:

a cathode for emitting an electron beam;

a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes, wherein a plurality of openings are formed at predetermined distances through the shield electrode, and the shield electrode is cylindrical and is mounted on the focusing electrodes covering the at least one gap and wherein a thickness (t) of the shield electrode satisfies the following condition:

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$$0.06\text{mm} < t < 0.4\text{mm}$$

9. (Original) The electron gun of claim 2 wherein distances g_2 between centers of the openings satisfy the following condition:

$$0.3\text{mm} < g_2 < 0.75\text{mm}$$

10. (Currently Amended) ~~The~~ An electron gun ~~of claim 6~~ for a cathode ray tube comprising:

a cathode for emitting an electron beam;

a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes, wherein the plurality of focusing electrodes comprise first and second separated focusing electrodes that satisfy the following condition:

$$b \text{ mm} > 0.5a \text{ mm}$$

where (a) is an inner diameter of the first separated focusing electrode and (b) is a length of the first separated focusing electrode in an axial direction of the CRT and wherein a distance between openings formed in the shield electrode corresponding to where the shield electrode covers the first separated focusing electrode is smaller than a distance between

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openings formed in the shield electrode corresponding to where the shield electrode covers the second separated focusing electrode.

11. (Original) The electron gun of claim 1 wherein the shield electrode is made of a non-magnetic material.

12. (Original) The electron gun of claim 2 wherein the openings are circular.

13. (Original) The electron gun of claim 2 wherein the openings are multilateral.

14. (Original) The electron gun of claim 1 wherein the shield electrode directly contacts the focusing electrodes.

15. (Original) The electron gun of claim 1 wherein the shield electrode is provided at a predetermined distance from the focusing electrodes by being fixedly mounted to the support through protrusions integrally formed to the shield electrode.

16. (Original) The electron gun of claim 4 wherein the shield electrode is fixedly mounted to the support through protrusions integrally formed to the shield electrode.

17. (Original) The electron gun of claim 1 wherein the cathode emits a single electron beam.

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18. (Original) A cathode ray tube comprising:

an electron gun including a cathode for emitting an electron beam, a plurality of grid electrodes aligned sequentially from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween, a support for fixing the grid electrodes in their aligned arrangement, and a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes;

a neck, within which the electron gun is mounted; and

a scanning velocity modulation coil mounted on an outer circumference of the neck corresponding to the positioning of the at least one gap of the focusing electrodes.

19. (Currently Amended) The cathode ray tube of claim 18 wherein a plurality of openings are formed at predetermined distances in the shield electrode, and the shield electrode is cylindrical and mounted on the focusing electrodes covering the at least one gap ~~gap(s)~~.

20. (Original) The cathode ray tube of claim 18 wherein the cathode ray tube is a projection-type cathode ray tube, in which a single electron beam is emitted from the cathode.

21. (New) An electron gun for a cathode ray tube comprising:

a cathode for emitting an electron beam;

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a plurality of grid electrodes aligned sequentially away from the cathode, one of the grid electrodes including a plurality of focusing electrodes that are mounted with at least one predetermined gap therebetween;

a support for fixing the grid electrodes in their aligned arrangement; and

a shield electrode mounted covering the at least one gap of the focusing electrodes and extending a predetermined distance over the focusing electrodes for shielding an external electrical field from entering into the at least one gap.